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(54) Quick change nozzle assembly for waterjet cutting

(57) A quick change nozzle assembly for waterjet cutting has a nozzle body (20) separable from a nozzle cap (10), the nozzle body (20) providing a quick change assembly including a feed tube handle (40) making

change possible without the use of tools, the separable nozzle body having included and aligned therein the required nozzle wear components such as a wear insert (35) and a focus tube (20).

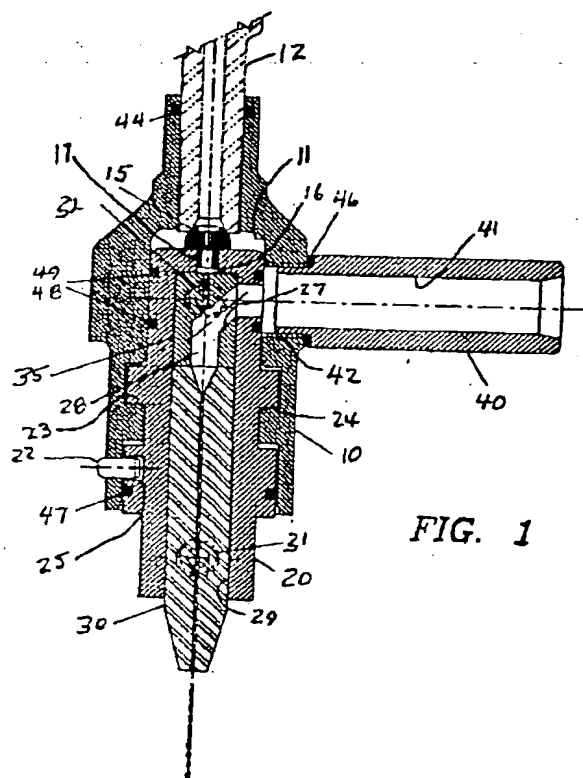


FIG. 1

EP 0 810 038 A3

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EUROPEAN SEARCH REPORT

Application Number

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	US 5 092 085 A (HASHISH, MOHAMED A. ET AL) 3 March 1992 * column 4, line 47 - column 7, line 25; figure 1 *	1,2	B24C5/04 B05B15/06
A	EP 0 450 946 A (SPRAYING SYSTEMS CO) 9 October 1991 * column 4, line 43 - column 8, line 47; figures 1,6 *	1	
A	EP 0 437 168 A (POSSIS CORP) 17 July 1991 * column 3, line 35 - column 4, line 14; figure 1 *	1	
A	DE 15 00 603 A (SPRAYING SYSTEMS CO) 12 June 1969 * page 4, line 5 - page 5, line 2; figures *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B24C B05B B26F
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 18 February 1999	Examiner Innecken, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 97 30 3601

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18-02-1999

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5092085	A	03-03-1992	US 5144766 A	08-09-1992
EP 0450946	A	09-10-1991	AU 630797 B	05-11-1992
			AU 7405691 A	10-10-1991
			CA 2039681 A	06-10-1991
			DE 69110335 D	20-07-1995
			DE 69110335 T	29-02-1996
			JP 4227870 A	17-08-1992
			US 5190224 A	02-03-1993
EP 0437168	A	17-07-1991	US 5018670 A	28-05-1991
			DE 69003233 D	14-10-1993
			DE 69003233 T	05-01-1994
			JP 3208559 A	11-09-1991
DE 1500603	A	12-06-1969	NONE	

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82